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1997 Feature Article - Earnings Statistics

INTRODUCTION

Statistics on earnings, labour costs and income are in demand by economic analysts, applied researchers, policy makers, and employer and employee associations. Recognising that "the myriad of users and uses of statistics in this area can never be satisfied with a single all-encompassing statistical measure that would meet all needs for all purposes" (Parsons, 1986), the ABS publishes a number of measures of earnings, labour costs and income. However, the variety of measures available can sometimes give rise to misunderstanding and misapplication. The aim of this article is to explain the various measures and their uses, in particular those related to earnings and labour costs.

EARNINGS AND RELATED CONCEPTS - INTERNATIONAL STANDARDS

There are four commonly used concepts relating to earnings: earnings, compensation of employees, labour costs and income. A brief description of these concepts follows.

Earnings is the narrowest concept among the four. It is defined by the International Labour Organisation (ILO, 1973) as "remuneration in cash and in kind paid to employees, as a rule at regular intervals, for time worked or work done, together with remuneration for time not worked such as for annual vacation, other paid leave or holidays".

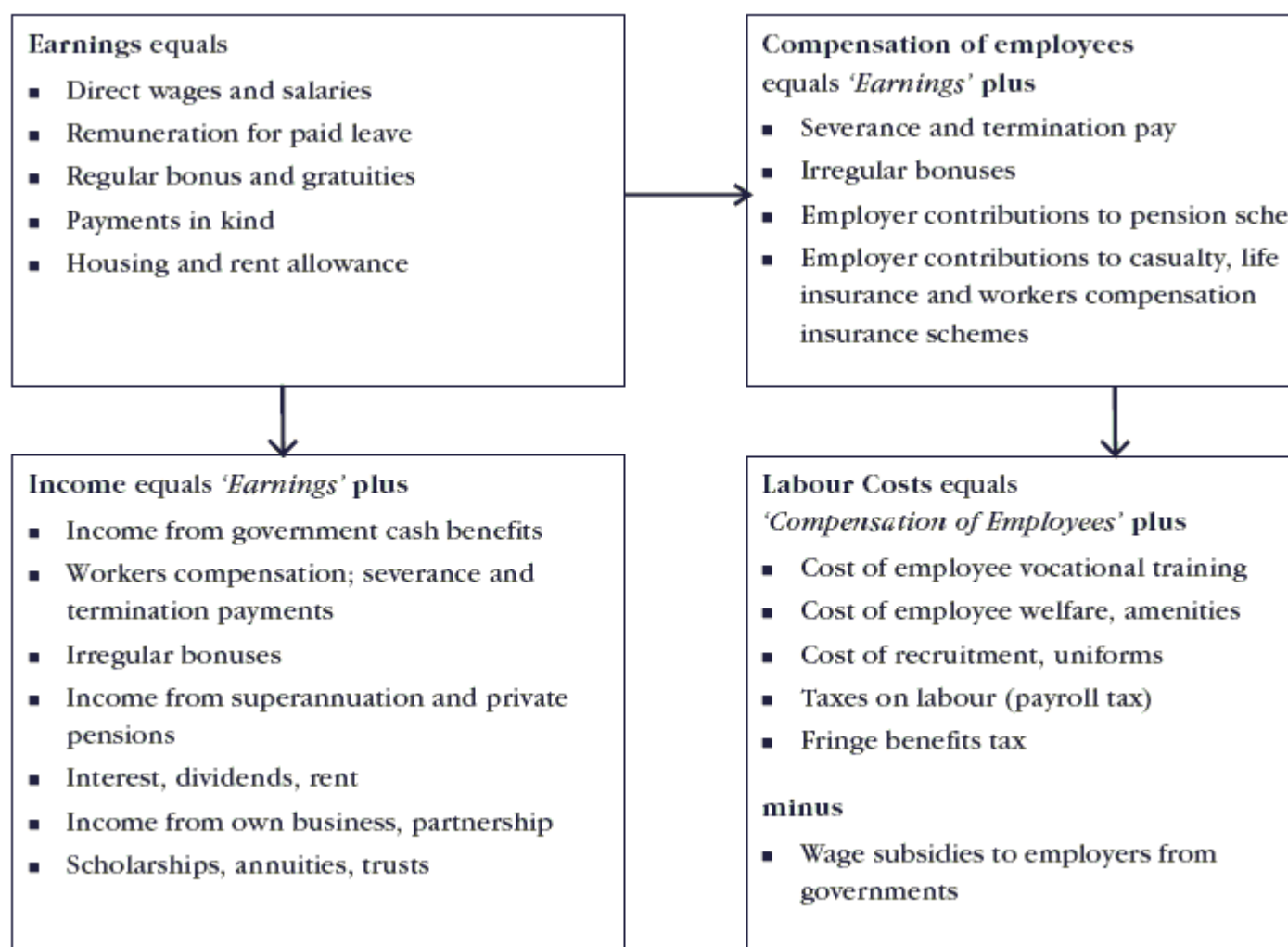
Compensation of employees is defined in the System of National Accounts (SNA, 1993) as "the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period" and has two main components: "(a) wages and salaries payable in cash or in kind; and (b) the value of the social contributions payable by the employers". This measure is much broader than earnings and includes items such as irregular bonuses, severance and termination payments, and employers' contributions to pensions and workplace injury insurance.

Labour costs comprises all costs incurred by the employer in the employment of labour. It is defined by the ILO (1966) as "remuneration for work performed, payments in respect of time paid for but not worked, bonuses and gratuities, cost of food, drink and other payments in kind, cost of workers' housing borne by employers, employers' social security expenditures, cost to the employer for vocational training, welfare services and miscellaneous items, such as transport of workers, work clothes and recruitment, together with taxes regarded as labour cost".

Income comprises earnings as well as receipts from other sources such as government cash benefits, workers' compensation, private pension/superannuation, interest, dividends, rents, net receipts from business, farm ownership or partnership, and other sources such as scholarships, alimony, trusts and annuities.

The relationship among these concepts is shown in **Diagram 1**.

DIAGRAM 1: RELATIONSHIP BETWEEN EARNINGS, COMPENSATION OF EMPLOYEES, LABOUR COSTS AND INCOME



ABS measures of earnings, compensation of employees, labour costs and income align closely with ILO definitions and the SNA 1993. However, some variations do exist due to the difficulty of translating concepts into practice and/or in collecting accurate data.

ABS MEASURES OF EARNINGS AND RELATED CONCEPTS

The major sources of data on earnings, compensation of employees and labour costs are briefly described below. Differences in the definitions of earnings and related concepts that apply in the various ABS employer and household surveys are shown in detail in **Appendix 1**. A description of the purpose, scope, reference period and survey method for each survey is given in **Appendix 2**.

Average Weekly Earnings

The major source of data on average weekly earnings is the quarterly Average Weekly Earnings Survey (AWES) which provides estimates of average weekly earnings per employee by State, industry, sector (private/public) and gender. In keeping with the concept of earnings as defined by the ILO, the AWES includes payments for time worked and payments for leave taken during a one week reference period in the middle of the calendar quarter, and it excludes irregular

earnings unrelated to the reference period. However, in spite of the inclusion of payments in kind (i.e. fringe benefits) in the ILO definition, these are excluded from this survey because of the practical difficulty of obtaining reliable data on such items for a one week reference period.

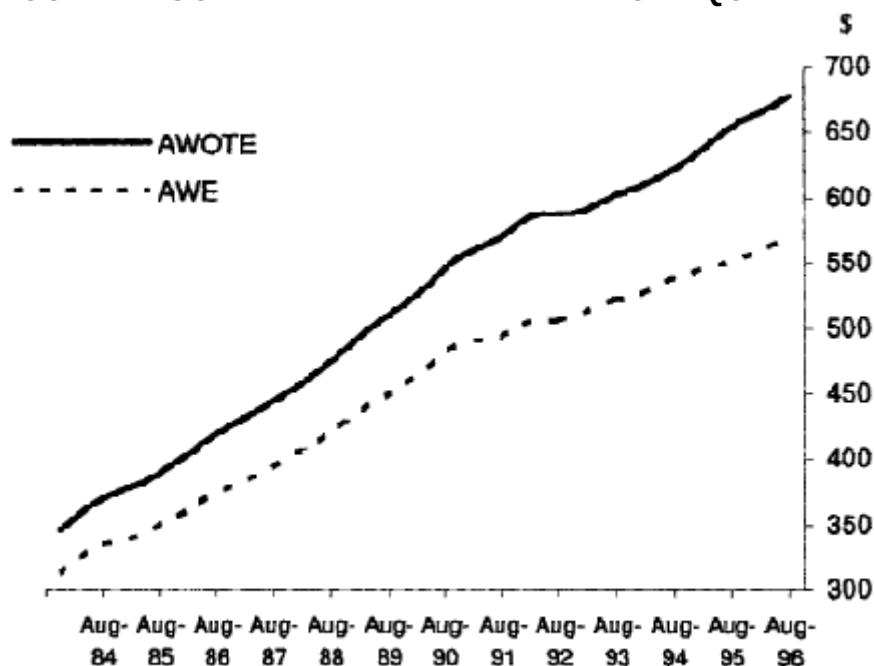
The three main series compiled from the survey are average weekly ordinary time earnings for full-time adults (AWOTE), average weekly total earnings for full-time adults and average weekly total earnings for all employees. Ordinary time earnings refers to gross earnings attributable to award, standard or agreed hours of work. Total earnings is equal to ordinary time earnings plus gross overtime earnings. Estimates of average weekly earnings are derived by dividing an estimate of weekly total earnings by an estimate of the number of employees (the latter is also collected in this survey).

The AWES is designed to provide a measure of quarterly levels and movements of average weekly earnings, but is not suitable for use as a price index of labour. Movements can be affected by shifts in the occupation and industry composition of the employee work-force and by changes in weekly hours worked by employees. Research indicates, however, that across broad industry and broad occupation groups, the composition of the labour force changes quite slowly. For the last decade, when analysing movements over less than a two year period, these compositional changes had negligible impact on the average earnings series, and even over the entire life of the series such effect was found to be relatively minor.

Use of the AWOTE measure will partially remove the impacts of changes in weekly hours worked. However, the AWOTE measure will have a tendency to inflate earnings movements in situations where premium pay for overtime, and benefits such as leave loading are 'rolled into' ordinary wages and salaries.

As well as excluding overtime, AWOTE excludes part-time and junior employees and is generally considered a more stable earnings series than average weekly total earnings for all employees (AWE). Over recent years there has been an increasing proportion of part-time employees in the work-force. **Graph 1 shows a gradual widening** of the gap between AWE and AWOTE due to the increased proportion of part-time employees.

GRAPH 1: COMPARISON BETWEEN AWE AND AWOTE QUARTERLY SERIES



Source: ABS 6302.0

Average weekly earnings data are also available from the biennial Employee Earnings and Hours Survey (EEHS). This survey produces supplementary information to the quarterly AWES by providing detailed information about the distribution and composition of employee earnings and hours. Estimates are available by occupation in addition to industry, sector (private/public) and gender available from the AWES. Earnings data produced by this survey are comparable to data from the May AWES as they share a common reference date (May) and data definitions (see **Appendix 2** for details).

An annual supplement to the August Labour Force Survey (LFS) obtains weekly earnings data which can be cross-classified by socio-demographic characteristics of the population. It differs from the AWES and EEHS in that it is a household survey and obtains information by interview, whereas the AWES and EEHS are employer based surveys obtaining information by mailed questionnaire. In addition, employer based surveys obtain information directly from payrolls while household surveys rely to some extent on the memory of the respondent.

Compensation of Employees

The Australian national accounts measure of Wages, Salaries and Supplements (WSS) corresponds to the SNA concept of compensation of employees. However, WSS in the Australian national accounts currently differs from the SNA 1 993 in two important respects. First, WSS is currently calculated on a cash payable basis rather than on an accrual basis. Second, instead of including the total cost of employer contributions to workers' compensation insurance schemes, only those payments to employees arising from workers' compensation insurance claims are currently included. These will change with the implementation of SNA 1993 in late 1998.

The quarterly estimate of WSS is based primarily on the gross earnings figure obtained from the Survey of Employment and Earnings (SEE).

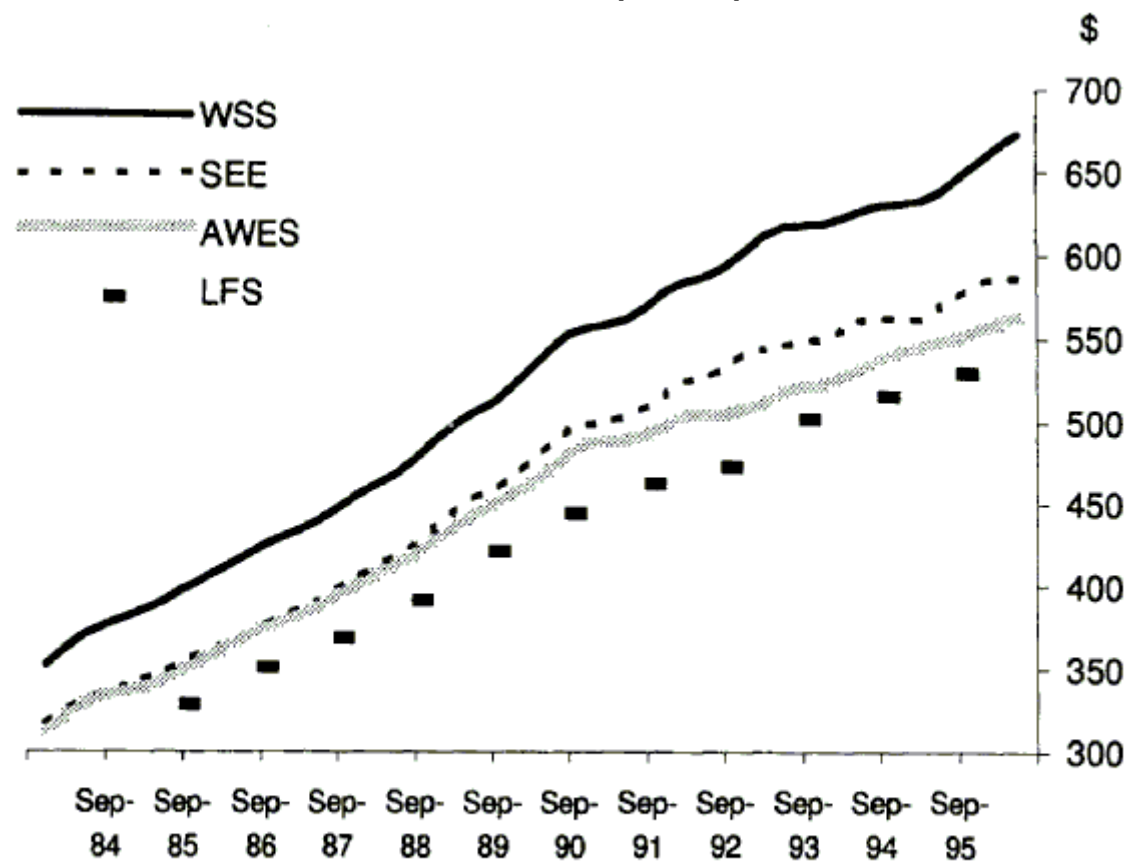
SEE obtains data on monthly employment and quarterly gross earnings of employees. It differs from the AWES in that it collects earnings data for all pay periods ending in a quarter whereas the AWES collects earnings and employment data related to a one week period in the middle of the quarter. In addition, the SEE definition of total earnings includes the following payments which are excluded from the AWES: pay in advance; retrospective payments; leave loadings; severance, termination and redundancy payments; and fees for directors or office holders. SEE provides detailed estimates of earnings and employment for Australia, States and Territories by industry and sector. A much larger sample size is used for SEE than for the AWES.

In calculating WSS, the gross earnings figure from SEE is adjusted upwards to account for non-farm wage and salary earners not covered by SEE for a variety of reasons, including under-coverage of the ABS Business Register from which samples are taken. The shortfall in the SEE estimate of wage and salary earners is estimated based on an independent estimate from the Labour Force Survey. In estimating the quarterly earnings of these 'unrecorded' wage and salary earners, it is assumed that they belong to the small business sector. For the current quarter, their earnings are estimated using 80 per cent of preliminary average earnings from SEE; for past quarters, final average earnings for small businesses (with less than 20 employees) from SEE is used. Other adjustments made to SEE gross earnings include: the addition of wages and salaries paid to non-residents employed overseas in Australian embassies and consulates, to non-resident employees of resident producers, and to defence services personnel; payments in kind; and employer payments for workers' compensation and superannuation.

Graph 2 provides a time series of average weekly WSS per employee and average weekly earnings from AWES, SEE and LFS. Quarterly trend data has been used from AWES, SEE and WSS while only annual data is available from LFS. As August is the reference period for LFS, the data for LFS was plotted for the September quarter. As the graph shows, AWES and SEE have

been very similar until the late 1980s when the two series began to diverge. The main reason for this divergence is the increased value of severance, termination and redundancy payments.

GRAPH 2: AVERAGE WEEKLY EARNINGS FROM AWES, SEE AND LFS¹ AND AVERAGE WEEKLY WSS (TREND)



Source: ABS, unpublished data

1. LFS is original data

Labour Costs

The major ABS source of data on labour costs is the five-yearly Survey of Major Labour Costs (MLC). The concepts and definitions of labour costs used by this survey correspond to the definition of compensation of employees described in the previous section minus wage subsidies to employers from governments plus payroll tax and fringe benefits tax. The following items which are included in the ILO definition are, however, excluded: payments to outside instructors or institutions for vocational training; payments to recruitment agencies; payments to other organisations for the provision of welfare services (food, recreational, medical, etc); depreciation on buildings and equipment used for training and for the provision of welfare services to employees.

Another ABS source of labour costs data is the annual Economic Activity Survey whose primary purpose is to provide key measures on the performance of Australian industry. The survey provides information on labour costs consisting of wages and salaries, expenses for employee entitlements, employers' contributions to superannuation, and workers' compensation premiums.

DEVELOPMENT OF A LABOUR COST INDEX

Given the importance that movements in labour costs have on employment outcomes, its accurate measurement is critical for monitoring the performance of the economy. As mentioned earlier, average weekly earnings measures from the AWES are affected by compositional shifts in the work-force and by changes in hours worked, and hence are not suitable as price indexes of labour. AWES also excludes significant non-wage labour costs such as employer funded superannuation and payroll tax. The ABS is currently developing a new quarterly Labour Cost Index (LCI). The LCI will be an integrated set of indexes covering both wage and non-wage costs, with initial development work focusing on the wage component.

The initial wage component of the LCI will allow 'pure' wage changes to be measured excluding compositional changes in the employee work-force. It will be a key indicator of wage trends for analytical purposes, providing a more appropriate measure of movements in the underlying price of labour than the currently used AWES. Compilation of the wage component of the LCI will be based on an hourly cost for a 'basket' of jobs comprising the index sample. The wage component of the LCI will be implemented in the December quarter 1997.

The full LCI will build on the wage component, adding a range of non-wage costs. In its final form, the LCI will measure movements in those employer costs associated with the compensation of employees measure described earlier, together with the costs of fringe benefits tax and payroll tax. The full LCI is expected to be implemented in the December quarter 1998.

NON-ABS MEASURES OF WAGES GROWTH

The introduction of enterprise bargaining has resulted in a new process of wage determination which is being monitored by government departments, trade unions and academic institutions. Measures of wages growth reported by two such sources are briefly described below.

Department of Industrial Relations' (DIR) Estimate of Enterprise Agreement Wage Increase

DIR publishes a quarterly report entitled **Wage Trends in Enterprise Bargaining** which provides estimates of wage increases for those federal wage agreements which paid quantifiable increases (DIR, 1 996). The total percentage wage increase is calculated for each agreement by summing all its percentage wage increases. This is then annualised by dividing the total percentage wage increase by the duration of the agreement in months, and then multiplying by 12 (a 12 month duration period is assumed for those agreements with less than a year's duration). The **Average Annualised Wage Increase (AAWI) per agreement** is calculated by summing the annualised percentage wage increases for all agreements and dividing this sum by the number of agreements.

AAWI per employee is calculated by multiplying the annualised percentage wage increase for each agreement by the number of employees covered by that agreement, summing over all agreements, and dividing by the total number of employees. **AAWI per employee** is considered the preferable measure since the **per agreement** measure is an unweighted measure. AAWI is reported both for federal wage agreements formalised in a quarter, and for all current federal wage agreements.

A comparison between the annual percentage change of the AWE series and AAWI is sometimes made to illustrate the difference between the wage outcomes of employees under enterprise bargaining agreements and all employees.

This comparison is inappropriate and likely to mislead for several reasons. For example, AAWI generally excludes increases paid in the form of conditional performance pay, one-off bonuses, and profit sharing or share acquisition. Also, the coverage of AAWI is limited to federal agreements and in September 1 996 represented only some 16 per cent of employees covered

by the AWES. In addition, due to the process of averaging wage increases over the entire length of an agreement, the AAWI estimate includes some wage increases which have not yet been realised, whereas the AWE series only includes realised earnings.

Australian Centre for Industrial Relations Research and Training's (ACIRRT) Estimate of Enterprise Agreement Wage Increase

ACIRRT publishes an **Agreements Database and Monitor Report** which summarises information maintained by its database about wage increases in enterprise agreements from federal, New South Wales, Queensland, Western Australian and South Australian jurisdictions (ACIRRT, 1996). Average annual wage increases are calculated both for enterprise agreements registered in a quarter, and for all current agreements contained in the database which paid quantifiable wage increases. As for the AAWI measure, the total percentage wage increase reported or estimated for each agreement is divided by the duration of the agreement in months. This figure is then multiplied by 12 to give an annualised percentage wage increase. Agreements which are officially effective only for a short period due to administrative delays in the registration process are excluded from such calculations.

An overall measure of average wage increase per agreement is calculated by summing the annualised percentage wage increases for all agreements and dividing this sum by the number of agreements. As complete information on the number of employees is unavailable, the employee coverage of this database is unknown. Hence measures of average wage increases derived from the database are only available on a per agreement basis, not per employee.

CONCLUSION

The measures of earnings discussed in this article differ in terms of frequency of collection, scope and extent of disaggregations available. While the Average Weekly Earnings Survey is intended to provide a reliable quarterly estimate of average weekly earnings at a more aggregated level, the Employee Earnings and Hours Survey is intended to supplement that information by providing further details about earnings distributions, and information on occupational earnings.

The advantage of the Survey of Employment and Earnings based measure is that it produces estimates of total quarterly gross earnings by industry and sector. Wages, Salaries and Supplements is a broader measure corresponding to the concept of 'compensation of employees' which includes employer funded superannuation and workers' compensation as well as earnings.

The Labour Cost Index will provide a consistent measure of movements in hourly labour costs controlling for changes in the occupational distribution of the workforce.

The main advantage of average weekly earnings from the Labour Force Survey lies in its ability to produce information on the distribution of weekly earnings by a range of demographic characteristics such as age, marital status, family status, birthplace and other social characteristics of employees which cannot be obtained from employer based surveys such as the Average Weekly Earnings Survey and the Employee Earnings and Hours Survey.

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APPENDIX 1 : COMPARISON OF EARNINGS AND RELATED CONCEPTS

Component	COLLECTIONS							
	AWE	SEE	EEH	EAS	WSS	LFSS	MLC	WCI/LCI
EARNINGS:								
Remuneration for time worked (including ordinary time and overtime)	+	+	+	+	+	+	+1	+
Remuneration for time not worked eg leave and public holidays	+	+	+	+	+	+	+	+
Retrospective pay and pay in advance	-	+	-	+	+	+	+	-
Leave loading	-	+	-	+	+	+	+	-/+2
Fees for directors	-	+	-	+	+	+	+	-
Bonuses, gratuities and profit sharing received regularly.	+	+	+	+	+	+	+	+
Bonuses, gratuities and profit sharing received irregularly	-	+	-	+	+	+	+	+
Commissions if a retainer wage/salary is paid	+	+	+	+	+	+	+	+
Workers compensation payments paid through the payroll	+	+	+	+	+	+	+	+

Payments in kind (fringe benefits)	-	-	-	+	+	-	-	-/+2
Taxable allowances	+	+	+	+	+	+	+	+

COMPENSATION OF EMPLOYEES:

Severance, termination and redundancy payments	-	+	-	+	+	-	+	-/+2
Employer contributions to superannuation and pension schemes	-	-	-	+	+	-	+	-/+2
Employer contributions to workers compensation costs, casualty and life insurance schemes	-	-	-	+	+	-	+	-/+2

LABOUR COSTS:

Employer costs for vocational training	-	-	-	-	-	-	-	-
Employer costs for welfare, medical services and staff amenities	-	-	-	-	-	-	-	-
Other employer costs eg recruitment, uniforms	-	-	-	-	-	-	-	-
Payroll tax, fringe benefits tax	-	-	-	+	-	-	+	-/+2

1 MLC excludes wage subsidies to employers from governments.

2 Excluded from WCI, but included in LCI

APPENDIX 2: EARNINGS MEASURES PRODUCED BY THE ABS

ABS Collection	Purpose	Frequency	Reference Period	Coverage	Definition of 'Earnings'	Survey Method
Average Weekly Earnings (AWES) (6302.0)	To provide a reliable quarterly estimate of average weekly earnings by state industry and sex of employees.	Quarterly	One week's portion of the last pay period ending on or before the 3rd Friday of the middle month of each quarter.	All wage and salary earners (permanent temporary, casual, managerial and executive) who received pay for the reference period.	Regular gross weekly earnings of all employees before taxation and other deductions.	A stratified random sample of 5,000 employers is selected from the ABS Business Register. The collection method is a mail questionnaire.
Survey of Employment and Earnings	To estimate the number of employees	Quarterly	For number of employees	As for AWES except that	As for AWES except that pay in advance,	As for AWES except that the sample size is

(SEE) (6248.0)	and their earnings primarily for use in estimating the income measure of GDP for the quarterly national accounts.	the last pay period ending on or before the 3rd Friday of each month within the reference quarter; for gross earnings: all pay periods for which the end of the pay period falls within the quarter.	employees of government enterprises in the Agriculture, forestry and fishing industry are included.	back-pay, severance, termination and redundancy payments fees for directors and irregular bonuses are included.	about 10,000
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Employee Earnings and Hours (EEHS) (6306.0)	To provide information about the distribution and composition of employee earnings and hours.	Biennial in May. Last conducted in May 1996.	One week's portion of the last pay period ending on or before the 3rd Friday in May.	As for AWES	As for AWES	About 9,000 employers are selected from the ABS Business Register using stratified random sampling. The selected employers provide data for a sub-sample of their employees. The resulting sample size is approximately 72,000 employees. The collection method is a mail questionnaire
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Non-farm Wages, Salaries and Supplements National Accounts (WSS) (5206.0)	Measurement of the factor share of labour in GDP.	Compiled quarterly	Calendar quarter	As for SEE except that defence force personnel employees of overseas embassies	As for SEE except that fringe benefits and employer contributions to pension schemes and workers	No separate survey is undertaken for estimation of WSS. The primary source of information is SEE which is
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and consulates and employees based outside Australia are included and employees of government enterprises mainly engaged in Agriculture forestry and fishing are excluded.

compensation schemes are included.

supplemented by information derived from a number of other surveys such as the Labour Force Survey, Survey of Major Labour Costs, and administrative sources such as the Department of Defence, the Australian Taxation Office, and the Insurance and Superannuation Commission.

Economic Activity Survey (EAS) (8140.0)	To provide key measures on the performance of Australian industry.	Annual	Financial year ending 30 June or a 12-month period for businesses having a different financial year.	All business units in Australia. ²	Labour costs comprising compensation of employees 'plus payroll tax, fringe benefits and fringe benefits tax.	A stratified sample of approximately 23,000 businesses is selected from the ABS Business Register. The collection method is a mail questionnaire.
Weekly Earnings of Employees: Labour Force Supplementary Survey (LFS) (6310.0)	To measure the distribution of employee weekly earnings according to a range of demographic characteristics such as age, marital status, family status and birthplace.	Annual	Interviews are generally conducted during the two weeks beginning on the Monday falling between the 6th and 12th of August. The reference period is the week	Employed wage and salary earners in their main job. ³	The last total pay before taxation and other deductions.	An annual supplement to the labour force survey. Collection method is either face-to-face or telephone interview.

before the
interview.

Survey of Major Labour Costs (MLC) (6348.0.0)	To provide a key measure of labour costs in Australia.	Five-yearly. The next survey results will be available for 1996/97.	Financial year ending 30 June	As for AWES	Earnings comprises all amounts paid to employees for gross wages and salaries, termination payments and fringe benefits. Labour costs comprises earnings, superannuation, payroll tax, workers compensation and fringe benefits tax.	As for AWES except that the sample size is about 8,500.
Labour Cost Index (LCI) (6345.0) not yet published	To provide indexes for measuring changes in the hourly cost to employers of employing labour, controlling for shifts in Occupational distributions.	Quarterly	As for AWES	As for AWES, but excluding non-maintainable jobs. ⁴	Compensation of employees plus payroll tax, fringe benefits and fringe benefits tax. ⁵	A longitudinal survey of approximately 20,000 jobs distributed across 3,000 employers.

1 Excludes members of the Australian permanent defence force, employees engaged in Agriculture, forestry and fishing, employees in private households, employees of overseas embassies, consulates etc, employees based outside Australia, employees on workers compensation who are not paid through the payroll, directors who are not paid a salary, proprietors/partners of unincorporated businesses, self-employed persons such as subcontractors, owner/drivers and consultants, and persons paid solely by commission

2 Excludes agricultural businesses with an estimated value of agricultural operations less than \$22,500, non-employing businesses in all other industries. ie businesses which are not registered as group employers with the ATO, and businesses classified to the General Government sector (note that government-owned Public Trading Enterprises are included).

3 Excludes persons who worked solely for payment in kind, members of the permanent defence forces, overseas residents in Australia, diplomatic personnel of overseas governments, and members of the non-Australian defence forces stationed in Australia, self-employed persons such as subcontractors, owner/drivers and consultants, and persons paid solely by commission without a retainer.

4 non-maintainable jobs are jobs that are expected to be occupied for less than 6 months of a year.

5 The LCI will be developed in stages. The Wage Cost Index (WCI) encompassing ordinary-time

and overtime wage and salary costs will be implemented in December 1997. The full LCI will be implemented in December 1998.

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